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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,899	07/03/2003	Quintin T. Phillips	100201499-1	6827
22879	7590	10/22/2004	EXAMINER	
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			YAN, REN LUO	
			ART UNIT	PAPER NUMBER
			2854	

DATE MAILED: 10/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/613,899	Applicant(s) PHILLIPS ET AL.	
	Examiner Ren L Yan	Art Unit 2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 1-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7-4-2003</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Applicant's election without traverse of Group II, claims 22-32 in the reply filed on 8-9-2004 is acknowledged.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 22, 23 and 25-32 are rejected under 35 U.S.C. 102(b) as being anticipated by JP9-208086. With respect to claims 22, 23, 25, 26 and 32, the '086 patent teaches the detailed structure of a media dispensing apparatus as claimed including a media support device 22a for supporting a stack of media sheets thereon, a picking roller for dispensing individual media sheets from the stack in succession, a counting device 28 for generating count data by counting the number of sheets being dispensed during a given time period, a measuring device for generating measurement data by measuring the difference in height of the media support device 22a (from L1 to L2), a processor 29 equipped with a computer readable memory device in communication with both the counting device 28 and the measuring device for computing an estimated number of media sheets remaining in the stack based on the count data and the measurement data. According to '086 patent, the data is stored in the memory and the whole processes is repeated to update the residual remaining number of sheets in the stack which informs the user about the remaining paper status in advance and prevents paper-less state in the middle of a print job. See the English abstract and Figs. 1-5 in '086 patent for details. With

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respect to claims 27 and 28, the processor 29 in the '086 patent calculates a ratio of a given change the quantitative characteristic to a corresponding number of media sheets dispensed from the stack by using the stack height difference ( $L1-L2$ ) divided by the number of dispensed sheets counted to obtain the thickness per sheet and then computes the estimated number of media sheets remaining in the stack based on the calculation of the current stack height  $L2$  divided by the thus obtained ratio(thickness per sheet). With respect to claim 29, the 086 patent also teaches to store the data in the memory to be used in the subsequent calculations in the repeat processes to update the residual remaining number of sheet data. Accordingly, a plurality of ratios would be computed as recited. With respect to claims 30 and 31, the '086 patent teaches all that is claimed except for the calculation of a mean value or a median value for the plurality of ratios as recited. Mean value and median value are numbers obtained from a set of quantities by some well established mathematical method such as probability and statistics. For example, a mean value is an average value among a set of quantities and a median value is a number midway between the two middle numbers in a set of even number of quantities. Given the processor 29 (the CPU and its memories), the media dispensing apparatus of the '086 patent is clearly capable of calculating a mean value and a median value for the plurality of ratios obtained as recited in claims 30 and 31.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP9-208086 in view of JP2-144351. The '086 patent teaches all that is claimed except that it does not use the change in weight of the sheet stack to calculate the number of the sheet remaining in the sheet stack. The '351 patent teaches in a media dispensing apparatus the conventional use of a pressure sensor to measure the weight change before and after the sheet feeding operation and the number of sheets fed out during that time period to calculate the amount of remaining sheets in the sheet stack. See the abstract and Figs. 1-3 in the '351 patent for example. It would have been obvious to those having ordinary skill in the art at the time the invention was made to provide the media dispensing apparatus of the '086 patent with the weight measuring device appropriately disposed as taught by the '351 patent as a simple substitute of one mechanical measuring device for another to achieve the same remaining sheet amount calculation.
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ren L Yan whose telephone number is 571-272-2173. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on 571-272-2168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Ren Yan", with a stylized flourish at the end.

Ren L Yan  
Primary Examiner  
Art Unit 2854

Ren Yan  
Oct. 19, 2004